Dream on

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2019

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One of the main findings of this study was that patients undergoing either open or endovascular aneurysm repair had similar long-term survival at a median follow-up of over six years, despite an increased number of reinterventions in the endovascular repair group.

The majority of deaths recorded in our trial were either due to cardiovascular causes or cancer. Therefore, cardiovascular risk modification has the potential to increase long-term survival in these patients. In our study we showed statin therapy to be independently associated with better long-term survival after open or endovascular aneurysm repair.

The cluster of reinterventions that appeared in the fifth year and to investigate which factors are associated with a higher reintervention rate, we used pre-operative morphological features to predict the risk of reintervention. Our analysis showed a clear association between the SGVI score and reintervention risk. Another factor that might influence long-term outcomes is progression of disease in the aortic neck after aneurysm treatment. In order to investigate the proportion of the neck that was left untreated after both open and endovascular repair, we compared residual neck length, determined by computed tomography scans among our patients. We demonstrated that after open repair, a longer segment of infrarenal neck is left untreated than after EVAR.

Since the introduction of the endovascular technique, renal function after aneurysm repair has been a concern. The estimated glomerular filtration rate (eGFR) of patients in our trial declined after five years of follow-up and is similar between EVAR and open repair.

Morbidity and mortality are well-established measures of surgical outcomes as the paragraphs above illustrate. However, in line with patient-centered health care, more subjective measures, such as Quality of Life (QoL) and Health Status (HS) are increasingly important. In our trial, deterioration in QoL occurred early after surgical intervention, especially in the physical domains of SF-36®. A significant difference was observed in several of the predominantly physical domains of SF-36® between the endovascular and open repair group at early intervals (≤6 weeks) in favour of EVAR. Subsequently, open repair was favoured at late follow-up (≥ 3 months). This significant long-term difference between open and endovascular repair, favoured open repair in several domains of SF-36® and in EQ-5D™. Despite this, the perioperative benefit of EVAR in terms of primary and secondary outcome parameters such as mortality, complications and hospital stay cannot be ignored.

In the face of long-term survival being similar in both groups, the importance of the short-term benefits for patients following EVAR cannot be overstated. We should target our efforts towards improving Quality of Life, refining the application and indication for this technique. As such, we should identify how to approach surveillance after endovascular repair including improving the durability of our devices and improve cost-effectiveness.